

**ULTRASONIC DIAGNOSTIC IMAGING OF RESPONSE FREQUENCY
DIFFERING FROM TRANSMIT FREQUENCY**

Abstract of the disclosure:

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An ultrasonic diagnostic imaging system and methods are described which produces ultrasonic images from harmonic echo components of a transmitted fundamental frequency. Preferably, a programmable digital filter is used to pass harmonic echo components for image processing to the exclusion of fundamental frequency signals. In a preferred embodiment, artifacts are removed by producing decorrelated replicas of the harmonic signals, which are then combined and used for imaging. To produce an image in the presence of depth dependent attenuation of high frequency echo signals, both fundamental and harmonic echo signals are processed and used to produce an image blended from components of both fundamental and harmonic echo signals.

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